DOCUMENT RESUME

ED 152 135 HE 009 673

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TITLE The Use of Surveys of Graduates (Outcome Studies) for Accountability and Academic Planning.
PUB DATE Mar 78
NOTE 20p.; Paper presented at the annual meeting of the American Educational Research Association (Toronto, Ontario, March 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS College Administration; *College Graduates; Educational Accountability; Educational Administration; *Educational Benefits; *Educational Planning; *Followup Studies; *Graduate Surveys; Institutional Research; *Research Tools; Resource Allocations; University Administration
IDENTIFIERS Institutional Evaluation

ABSTRACT

Federal and state governmental agencies and committees increasingly request that postsecondary educational institutions supply outcomes data related to the employment and income of degree recipients from degree programs offered. Surveys of college and university graduates have provided information to meet these accountability demands. They have also been used for academic planning, resource allocations, and for institutional self studies for accreditation. When survey results are used for these latter purposes, they should include assessments of the intellectual, personal and social development resulting from the educational experience and they shoud be evaluated in terms of the roles, goals, and educational objectives of an institution. To obtain perspective in academic planning and resource allocations, survey results should be used with other information such as the number of student credit hours generated by degree programs and the number of degrees granted. Two large-scale surveys of graduates are described. The results reveal that the educational experience provided rewarding benefits occupationally and in intellectual and personal development. The evaluations of academic programs and student services are useful for academic planning and resource allocations. (Author)

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THE USES OF SURVEYS OF GRADUATES (OUTCOME STUDIES) FOR ACCOUNTABILITY AND ACADEMIC PLANNING

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American Educational Research Association
Session #22.02
Annual Meeting 1978

HE009673

ABSTRACT

Federal and state governmental agencies and committees increasingly request that postsecondary educational institutions supply outcomes data related to the employment and income of degree recipients from degree programs offered. Surveys of college and university graduates have provided information to meet these accountability demands. They have also been used for academic planning, resource allocations, and for institutional self studies for accreditation.

When survey results are used for these latter purposes, they should include assessments of the intellectual, personal and social development resulting from the educational experience and they should be evaluated in terms of the roles, goals, and educational objectives of an institution. In order to obtain perspective in academic planning and resource allocations, survey results should be used with other information such as the number of student credit hours generated by degree programs and the number of degrees granted.

Two large-scale surveys of graduates are described. The results reveal that the educational experience provided rewarding benefits occupationally and in intellectual and personal development. The evaluations of academic programs and student services are useful for academic planning and resource allocations.

The Increasing Importance of Outcomes Data

Accountability demands on institutions of higher education increasingly focus on outcomes of the educational process related to the income and employment potential for degree recipients. The survey of graduates of colleges or universities can provide valuable information about these outcomes and the other benefits that result from the educational experience.

The Guaranteed Student Loan Program has requested that institutions of Higher Education have information available to students regarding the employment and salaries of previously enrolled students who have completed the degree programs offered. Some state legislative and executive committees have requested outcomes information that includes the number of graduates who have obtained employment related to their academic field of study, the income level, and the number of degrees granted by subject fields. Some state boards or commissions of higher education request data about the employment potential for degree recipients when new degree proposals are submitted and when there are reviews of existing degree programs.

This demand for occupationally oriented outcomes is international in scope. Scully (1976) reported in The Chronicle of Higher Education that in England, France, Sweden, the Netherlands, Canada, Germany, Italy, and the United States, the numbers of unemployed and underemployed college and university graduates have led to the demand for vocationally oriented curricula and, in some of these countries, there has been pressure for reform of systems of education and for manpower planning.

Just as outcomes data has become important for accountability purposes, it can also provide information for academic planning and for decision-making about resource allocations. When used for these purposes, the benefits or outcomes of the educational experience should be evaluated in terms of the

roles and goals of an institution and by specific objectives of the educational experience as they are viewed by the institution. Educators must respond to the pressures of governmental agencies to provide outcomes data related to employment and income, but they must also insure that the noneconomic values of education are an integral part of evaluations of educational benefits.

The increasing importance of information provided by surveys of graduates, as measures of educational outcomes, motivates institutions of higher education to engage in this type of research and to share the results. The cumulative information can help higher education assume leadership in demonstrating the benefits of the educational experience that include intellectual, personal, and social development as well as occupational outcomes.

Surveys of Degree Recipients

A survey of 3,315 baccalaureate and advanced degree recipients of the University of Colorado at Denver, 1970-1975, was conducted in April, 1976. This number represents all graduates for whom addresses were available. The total number of completed returns was 1,389 or 42 percent. The responses were representative of the distributions across the schools and colleges and across the five years.

The respondents identified the major or subject field of their degree. Consequently, the outcomes information can be related to each degree program. The survey includes the recipients' income, the relationship of their jobs to the degree, the amount of intergenerational or socioeconomic mobility that occurred, estimates of intellectual and personal development experienced, and evaluations of instruction, academic advising, and career counseling. For the purposes of this report, the degree-related data is aggregated by the school or college in which the degree work was completed.

This research was preceded in 1974-75 by a survey of all four campuses

of the University of Colorado using a stratified random sample consisting of 5,833 degree recipients, 1890-1973, across the schools and colleges. The results from the four campus survey, Henard (1975), correlate highly with the more recent one for the Denver Campus only.

Because of this correlation and because of the volume of data that resulted from the two research projects, the results of the more recent survey related to the University of Colorado at Denver are reported here.

Purposes in Obtaining Degrees

The total sample's most frequently mentioned reasons for obtaining degrees were occupationally oriented (61 percent), with 20 percent who indicated general education as the purpose, and the remaining 19 percent desiring knowledge in a specific field. The latter may be occupation-oriented or related to general education.

The responses across the schools and colleges varied considerably from those of the total sample. For example, the range for occupation-oriented responses for baccalaureates was from 46 percent for the College of Liberal Arts and Sciences (CLAS) to 82 percent (Engineering), while the range for those with advanced degrees was much less, 64 percent (CLAS) to 84 percent (Business). There was also a wide range in the responses of those who stated general education was their purpose in obtaining the degree. For baccalaureates, the range was from three percent (Engineering) to 32 percent (CLAS) and for advanced degree recipients it was from one percent (Education) to 19 percent (Engineering). The range for those whose purpose was knowledge in a specific field was from 14 percent (Education) to 22 percent (CLAS) for baccalaureates, and from one percent (Business) to 23 percent (Environmental Design) for advanced degree recipients.

Income and Employment

Comparisons of increases in the median annual incomes of degree recipients from the first position held after receiving the most recent degree to the present position, revealed that in the total sample, baccalaureates increased 60 percent and those with advanced degrees increased 32 percent (Table 1). Those with advanced degrees had higher levels of income than baccalaureates in the first position and were in higher levels of employment, consequently there was a lower percentage of salary increase between first and present jobs. Moreover, advanced degrees are more remunerative than baccalaureates for recipients from all schools-colleges, with the differences in median salaries for baccalaureates and advanced degree recipients ranging from 41 percent for Education to 16 percent for Business.

In the total sample, 65 percent of the baccalaureates and 60 percent with advanced degrees estimated their income would be less without the degree. For baccalaureates the range of the responses was 52 percent (CLAS) to 79 percent (Engineering) while advanced degree recipients ranged from 40 percent (Engineering) to 84 percent (Education).

Occupational Classifications

Seventy-two percent of the degree recipients in the total sample are presently in officer-manager, professional or technical occupations, with only six percent in office-clerical positions, three percent in unskilled, semi-skilled or skilled jobs, while the remainder are in varied occupations.

The comparisons of occupational classifications of the first and present positions showed that in the total sample, there are 10 percent more in the officer-manager, professional or technical positions presently, eight percent fewer in office-clerical jobs, and three percent less employed as skilled, semi-skilled or unskilled workers. The largest increase among the school-

Table 1

University of Colorado Degree Recipients 1970-75

Comparisons of Median Annual Incomes

Present Position and First Position after Most Recent Degree

(First position in parentheses)

Total Sample and Schools-Colleges	Baccalaureate Degree Recipients	Percent Increase First to Present Position	Advanced Degree Recipients	Percent Increase First to Present Position
Total Sample	$13,882 ($ 8,693)	60	$18,169 ($13,749)	32
Business	17,313 ($10,833)	60	22,767 ($15,000)	52
C.L.A.S.	11,433 ($ 7,530)	52	15,673 ($12,166)	29
Education	9,225 ($ 7,000)	32	12,999 ($12,500)	4
Engineering	18,333 ($12,692)	44	21,250 ($15,000)	42
Environmental Design			16,111 ($12,000)	34
Public Affairs			19,166 ($14,499)	32

college in the officer-manager, professional or technical categories was CLAS baccalaureates (15 percent).

Intergenerational or socioeconomic mobility is evidenced by comparing graduates' present occupational classifications with those of their fathers. This comparison for the total sample showed 32 percent more graduates are officer-managers, professionals or technicians; 28 percent less are skilled, semi-skilled or unskilled workers. Among school-college degree recipients, the largest percentage of mobility into the officer-manager, professional or technical classifications was experienced by Engineering baccalaureates (72 percent). They also had the highest percentage of fathers (46) who were skilled, semi-skilled or unskilled workers. CLAS baccalaureate degree recipients had the lowest percentage of mobility into the officer-manager, professional or technical categories (10 percent) but there was a high percentage of their fathers (46) in this category.

Relationship of Employment to Academic Fields

Eighty-four percent of all graduates reported that their present positions are directly or indirectly related to their academic field of study, an increase from 56 percent since their first position after receiving their most recent degree (Table 2). A very high proportion of advanced degree recipients stated that there was a direct or indirect relationship between their present jobs and their academic fields. The range was from 92 percent for the College of Liberal Arts and Sciences (CLAS) to 100 percent for Engineering and Environmental Design. Baccalaureate responses ranged from 70 percent for CLAS to 99 percent for Engineering.

A comparison of academic field-job relationships between first and present positions shows there was a 28 percent increase for degree recipients in the total sample. The largest increases in the schools and colleges were for

Table 2

University of Colorado Degree Recipients 1970-75

Relationship of Jobs to the Academic Field of Study

Comparisons of First Position (parentheses) with Present Position

Relationship of Jobs to the Academic Field of Study	Total Sample	Business		CLAS		Education		Engineer.		Env. Des.	Public Affairs
		B	M	B	M	B	M	B	M	M	M
Directly Related	56 (36)	62(48)	64(51)	34(26)	72(60)	82(55)	91(90)	75(72)	82(43)	75(64)	59(55)
Indirectly Related	28 (20)	28(34)	30(45)	36(28)	20(25)	8(20)	8(8)	24(18)	18(57)	25(32)	33(38)
Not Related	16 (44)	10(18)	6(4)	30(46)	8(15)	10(25)	1(2)	1(10)	--(--)	--(4)	8(7)

CLAS baccalaureates (16 percent) and Education baccalaureates (15 percent), while there was no change for Engineering advanced degree recipients because 100 percent reported academic field-job relationships for both first and present positions. In some cases, there was a slight reduction in the percentages of job-academic field relationships from the first to the present position, probably because degree recipients moved into administrative positions.

In the total sample, more baccalaureates (63 percent) than advanced degree recipients (37 percent) stated their present position required the degree. Baccalaureate responses across the schools and colleges, ranged from 47 percent for CLAS to 75 percent for both Engineering and Education, with Business at 60 percent. For those with graduate degrees, the range was from 21 percent (Public Affairs) to 65 percent (Environmental Design), with CLAS at 53 percent, and the remainder at the lower end of the range (Engineering-25 percent, Business-27 percent, and Education-33 percent).

Even though those with advanced degrees did not have as high a level of affirmation as baccalaureates that the degree was required for their jobs, their responses revealed they exceeded baccalaureates in the number having academic field-related jobs and their income was higher.

The range of responses for baccalaureates who believe they could not have obtained their first employment immediately after receiving the degree without the degree was from 32 percent for CLAS degree recipients to 73 percent for those with Education degrees. The range was somewhat greater for those with advanced degrees, 55 percent for Environmental Design to 100 percent for Engineering, with the remainder of the responses at 70 percent or above. Regarding their present positions, baccalaureates ranged from a 46 percent response (CLAS) to 78 percent (Education) in stating that they could not have obtained the position without the degree. Again, the range was greater for ad-

vanced degree recipients, 40 percent for Public Affairs to 78 percent for Environmental Design. However, when responses are combined regarding education being "somewhat responsible" for the present position and "could not have obtained (position) without it," the ranges are much less and the level of affirmation is higher (baccalaureates: 70 percent (CLAS) to 92 percent (Engineering); advanced degrees: 85 percent (Education) to 91 percent (Environmental Design)).

Current Status of Employment and Unemployment

Among baccalaureate and advanced degree recipients, Engineering had the highest percentage who planned to remain in their present jobs (baccalaureate (b)=82, Masters (m)=94), Environmental Design (m=66) and CLAS (b=56, m=66) were lowest. CLAS had the highest percentages unemployed (b and m=5 percent), Engineering the lowest (b=1, m=0), compared with 3.7 percent for the total sample. These unemployment figures are very low compared to comparable age groups nationwide. The Bureau of Labor Statistics (1977) reports that the annual unemployment averages for 1976 were 17.3 percent for those aged 18-19 years, 11.9 percent for ages 20-24, and 8.5 percent for ages 25-34.

Intellectual and Personal Development (Nonoccupational)

Ninety-one percent of the total sample found their degrees helpful for acquiring nonoccupational knowledge (very helpful=51 percent), 73 percent stated their degree was helpful for developing nonoccupational skills (very helpful=27 percent), and 77 percent responded affirmatively regarding the helpfulness of degrees in developing nonoccupational values (very helpful=38 percent). The "not helpful" responses were six percent for knowledge, 22 percent for skills, and 14 percent for values. The "no opinions" were three percent, six percent and 10 percent respectively for the three categories.

Across the schools-colleges, the range of responses for baccalaureates who stated their degree was helpful in providing nonoccupational knowledge was 86 percent (Engineering and Education) to 95 percent (Business) and for advanced degree recipients, the range was 70 percent (Public Affairs) to 98 percent (Business).

The range of school-college responses regarding the helpfulness of degrees in developing nonoccupational skills was 71 percent (Business baccalaureates) to 76 percent (Education baccalaureates) and for advanced degree recipients, it was 64 percent (Public Affairs) to 78 percent (Education).

The responses of those who said their degree helped them develop nonoccupational values revealed the ranges of 64 percent (Engineering baccalaureates) to 83 percent (CLAS baccalaureates) and 66 percent (Public Affairs advanced degree recipients) to 84 percent (Environmental Design advanced degree recipients).

Evaluation of Instruction

Degree recipients were asked to evaluate instruction by indicating the percent of instruction that was (1) excellent, (2) above average, (3) average, (4) below average, and (5) poor. The responses for these five categories were to sum to 100 percent.

The median responses of degree recipients for each of the five categories provided for evaluation revealed that the total sample believe that 25 percent of the instruction is excellent, 25 percent above average, 30 percent average, 10 percent below average, and 10 percent poor.

Most of the median responses for both baccalaureate and advanced degree recipients of the school-college did not vary more than five percentage points above or below the responses for the total sample.

Academic Advising

More than one-fifth of the total sample did not seek academic advice. The range of percentages across the schools and colleges was 11 percent (Education baccalaureates) to 37 percent (Business advanced degrees).

The evaluations of those in the total sample who received academic advising were that seven percent thought the advising was excellent, 16 percent rated it above average, 35 percent said it was average, 19 percent gave a below average rating and 23 percent stated it was poor.

Across the schools and colleges, there is a great amount of variance from the total sample responses. Combined percentages of responses for "below average" and "poor," show that Engineering baccalaureates were lowest (19 percent) and Business baccalaureates were highest at 63 percent.

Faculty members and the dean of the school or college provided most of the academic advising. The percentages who received academic advice from friends and acquaintances ranged from seven percent (Education advanced degrees) to 33 percent (Public Affairs).

Career-Occupational Counseling and Placement Services

More than one-half (57 percent) of the total sample did not seek counseling about careers or occupations. The range across the schools and colleges was from 50 percent (Education baccalaureates) to 75 percent (Business and Engineering advanced degrees).

The evaluations of career-occupational counseling by the total sample were that two percent believed it was excellent, eight percent stated it was above average, 31 percent gave an average rating, 25 percent said it below average and 34 percent thought it was poor. The responses across school and colleges vary considerably with those of the total sample. The combined percentages of those who gave "below average" and "poor" evaluations show Educa-

tion advanced degree recipients the lowest at 32 percent and Engineering advanced degree recipients highest at 100 percent.

Nearly one-half of the total sample indicated that they did not receive career or occupational counseling from the mentioned sources and nearly one-fourth identified friends and acquaintances as the source. These proportions were the general pattern for both baccalaureates and advanced degree recipients. Faculty members provided nearly one-fifth of the career-occupational counseling for the total sample, with a range across the schools-colleges of nine percent (Business baccalaureates) to 29 percent (Engineering baccalaureates and advanced degrees).

Sixty-eight percent of the total sample believe a placement service on the Denver campus is important, only 14 percent consider it not important or are neutral, and 18 percent had no opinion. This was the general pattern of the responses across the schools-colleges.

Degree Recipients Who Remained in the State

Seventy-five percent of all degree recipients, 1970-75, now live in Denver and an additional eight percent live in Colorado. Nearly three-fourths plan to remain in Colorado in the future (56 percent in Denver and 17 percent in other state locations).

The Uses of the Survey Results

The outcome studies have been used for reports to the State Planning and Budgeting Office, they have supported proposals for new degree programs, and they are being used by the School for Educational Studies in its self study for the accreditation review by the National Council for Accreditation of Teacher Education (NCATE).

The income and employment-related data have supplied the information re-

quired by the Guaranteed Student Loan Program, and it will be useful for counseling students about potential outcomes related to specific degree programs.

Comments and Conclusions

Accountability. One aspect of accountability is to demonstrate the benefits that accrue to graduates of an institution that result from completing a degree program. The results of the survey show that 84 percent are in employment related to their academic field, with a range of 92 percent to 100 percent of advanced degree recipients across the schools and colleges in degree-related jobs. Thirty-two percent more graduates, compared to their fathers, are in officer-manager, professional or technical occupations. There were significant increases in median income from the first position held after receiving a degree to the present position. Compared with national statistics for comparable age groups, the 3.7 percent unemployment is extremely low. Eighty-three percent of the graduates have remained in the state that provided most of the financial support for their education and are contributing to its economy and to society. Ninety-one percent found their degree helpful in providing intellectual development (nonoccupational knowledge) and nearly 80 percent were helped in the development of values.

These results reveal a considerable benefit from the educational experience for graduates.

Academic Planning. Though the evaluations of instruction were good, they are no cause for complacency. On the other hand, academic advising and career counseling were not evaluated highly. One-third of the respondents believe academic advising is below average or poor and nearly 60 percent gave these ratings for career or occupational counseling. Thirty-eight percent believe classes are too large. Sixty-eight percent believe more placement services should be provided. These respondents indicate that academic planning and student services need to improve these conditions and services.

Resource Allocations. Resource allocations require perspective and the weighing of many factors in making decisions. Surveys of graduates provide employment related information about degree recipients and their estimates of other benefits derived such as personal and intellectual development. For example, the median annual income for Education degree recipients was the lowest among the school and colleges while those with baccalaureate degrees completed in the College of Liberal Arts and Sciences had the lowest number of graduates with jobs that were related to their academic field. However, arts and sciences degree recipients had the highest number who stated that general education was their purpose in obtaining the degree, and they had the next highest number who indicated that knowledge in a specific field was their purpose. Consequently, when data from surveys is used in relationship to resource allocations, perspective is necessary and it must be related to the purposes, roles and goals, and objectives of the educational experience in an institution.

Moreover, in order to obtain perspective, data from surveys of graduates should be viewed beside other information such as the number of degrees awarded and the number of student credit hours (SCH) generated. For example, in the academic year (1975-76) in which the University of Colorado at Denver survey occurred, the College of Liberal Arts and Sciences (CLAS) produced 39 percent of all degree recipients and had 62 percent of all full time equivalent faculty (FTE). However, that college generated 64 percent of the student credit hours with one-third of these from students with declared majors in degree programs of the other schools or colleges.

The obvious conclusion that results from the consideration of survey data and other available data is that no single factor can be used exclusively, but perspective for decision-making may be developed by weighing all items of information.

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